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Designing Motivation into Library and Information Skills Instruction

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Effective library and information skills instructional programs not only help students acquire the skills they will need to solve their information problems, but also stimulate intellectual curiosity and encourage continued information seeking and exploration. This article describes some well-known theories and concepts of motivation and how they relate to library and information skills instruction. Illustrations of the integration and application of motivation models to library and information skills instruction and some relevant areas for future research on motivation in this context are suggested.

Library media specialists teach curriculum-integrated library[1] and information skills[2] to students at all grade levels. Other than Kuhlthau's work on the affective aspects of information-seeking behavior,[3] research on and development of models of library and information skills instruction have largely focused on cognitive processes and content, with little attention paid to motivational issues. Yet one widely accepted goal of education is to develop intrinsically motivated, life-long learners who not only want to learn but also enjoy the learning experience while it is occurring, and want to continue learning after the instruction has formally ended.

Standards for library media programs and services (e.g. *Information Power*[4] 1988) mandate that the role of the library-media specialist is to help students become effective users of ideas and information. To achieve this mission, effective library and information skills instructional programs must not only help students acquire the skills they will need to solve their information problems, but they must also stimulate intellectual curiosity and encourage continued information seeking and exploration. This requires research that identifies ways for library-media specialists to incorporate effective motivational interventions into their instruction. This article will present (1) some of the theories and concepts of motivation and how they relate to library and information skills instruction, (2) a systematic model for designing motivating instruction, (3) ways to integrate and apply motivation theories and m odels to library and information skills instruction, and (4) some relevant areas of future research on motivation in this context.

Theories and Concepts of Motivation

Much of the research on motivation (mostly from the 1930s to the 1970s) took place in the field of industrial psychology, focusing on ways to motivate people in the workplace; i.e. how to get workers to work harder, faster, and better. Within the past twenty years with the increasing importance of identifying effective motivational techniques for improving classroom

management and accommodating the ever-increasing diversity of student populations (Wlodkowski 1981), there has been a shift in that research from the workplace to the classroom. As a result, a number of researchers have begun to focus on ways to apply some of the same theories and concepts found to be effective in industry to the teaching-learning environment. Following some of these theories and concepts and provides relevant examples of motivation strategies[5] for library and information skills instruction.

Need Theory. There are several theories that focus on human needs, but perhaps the most recognizable is Abraham Maslow's Hierarchy of Needs (e.g. 1943). Maslow identified five categories of needs that are hierarchical in nature, i.e. each preceding level of need must be satisfied before the higher level need can be met. The five categories of needs, from lowest to highest, are:

- physiological needs (basic needs such as food and water)
- safety needs (safe and secure physical and emotional environment)
- belongingness needs (acceptance and friendship)
- esteem needs (a positive self-image and attention and appreciation for one's contributions)
- self-actualization needs (developing one's potential to the fullest degree)(Steers and Porter 1987).

This theory is as relevant today as it was when Maslow first proposed it. It provides the rationale for the breakfast and lunch programs, security systems, and self-esteem-building programs in many of our nation's schools. Students cannot learn and develop intellectually when they are hungry, afraid, or lack self-confidence. One way to build self-esteem is by ensuring that students learn essential skills for academic success, including both information literacy and basic literacy skills. Library media specialists, in collaboration with classroom teachers, can help foster these skills that contribute to students' academic success.

Achievement Motivation. Based on the work of preceding need theorists, especially Henry Murray (1938), David McClelland (e.g., 1961) developed the theory of achievement motivation, which identifies three important needs that are universal (i.e. present to a greater or lesser extent in all people) but are not hierarchical. These needs are:

- need for achievement (the need to strive for personal excellence),
- need for affiliation (the need for social interaction), and
- need for power (the need to exert influence over others).

Students with a high need for achievement prefer moderately challenging learning tasks (e.g., using an online search strategy to locate relevant research materials). Students high in "need for affiliation" prefer activities that allow them opportunities to interact with other students (e.g., cooperative learning teams are formed to complete an oral history project). Students with high need for power prefer activities in which they can assume leadership roles and have an impact on others (e.g., students are asked to debate the topic "Restricting Student Use of the Internet"). With an understanding of achievement motivation, library media specialists can collaborate with classroom teachers to design instruction that incorporates a variety of learning activities and products to satisfy the range of achievement motivation needs.

Attribution Theory. Attribution theory (e.g., Weiner, 1972; 1979), proposes that people will ascribe one of four (two internal, two external) attributions to their success or failure at a task. These attributions are:

1. ability (they succeeded because they are smart or talented or failed because they are not)
2. effort (they succeeded because they worked hard or failed because they did not put forth enough effort)
3. task difficulty (they succeeded because the task was at the appropriate level of challenge or failed because the task was too difficult—or even succeeded because the task was too easy); and
4. luck (they succeeded or failed because some external force made it happen— e.g., the teacher did or did not like them; there was a full moon; they were sitting in the "lucky" or "unlucky" chair).

Students who experience repeated failure, who do not perceive their actions as influencing these negative outcomes and who attribute failure to external forces may develop a condition known as "learned helplessness" (Seligman 1975). Learned-helpless people just give up—they don't make any effort, even when there is clearly an opportunity for success. Instruction, where appropriate, that encourages students to take more internal responsibility for their own learning success or failure, will help to motivate them to continue learning. There are, however, times when it is inappropriate for students to have an internal attribution (e.g., "I can't learn this because I'm just not smart enough") and appropriate to have an external attribution (e.g., The test really was too difficult for the level of the learners). Library media specialists, working with classroom teachers, should focus on student effort and ability for understanding and using research skills to achieve related learning objectives.

Intrinsic-Extrinsic Orientation. The literature distinguishes between two general types of motivational orientations (e.g., Rotter 1966; deCharms 1968; Deci 1975). For students exhibiting an intrinsic orientation, participation in the learning task provides its own motivation; it is the desired end. Students exert effort because the task itself (1) stimulates curiosity and interest through uncertainty or challenge or (2) promotes satisfaction through feelings of competence or control (e.g., Brophy 1988; Butler 1988; Gottfried 1985; Lepper 1988). Students with an extrinsic orientation, on the other hand, perform a task as a means to achieve a desired end, typically some external reinforcement, such as a tangible reward or praise. Marshall (1987) found that when teachers used intrinsic motivators (e.g., gave reasons for the importance of the learning task or encouraged students to relate the task to their personal needs or experiences), there was a higher rate of on-task behavior and higher motivation toward the task. In contrast, Newby (1991), in a study on the use of motivational strategies by teachers in elementary classrooms, found negative correlations between the number of extrinsic motivators (i.e. rewards, punishments) used and the amount of task engagement.

Although previous research provides some evidence that intrinsic rather than extrinsic strategies are the most effective for long-term learning motivation, there have been no studies to date that examine the use of either of these motivators in the context of library and information skills instruction. Such research may provide information about any unique features of that context (for example, the integration of information literacy skills with the curriculum), as well as the types and amount of motivational strategies that are most effective for stimulating curiosity and information-seeking behaviors.

Expectancy-Value Theory. A theory related to both achievement motivation and attribution theory is expectancy-value theory (Vroom 1964; Porter and Lawler 1968). It identifies effort as the major measurable motivational outcome. It specifies two necessary preconditions to effort;(1) valuing the task and (2) expecting to succeed at the task. Applying this theory to library and information skills instructional situations, the library media specialist can present the task (or content) in a way that (1) is engaging and meaningful to the student (e.g., tying information skills instruction to a class assignment) and (2) promotes positive expectations for successful achievement of learning objectives (e.g., showing samples of successful assignments completed by other students at that level).

Curiosity. Berlyne (1960) describes curiosity as a state of arousal brought about by complex stimuli and uncertainty in the environment which leads to exploratory behavior. He identified two types of exploratory behavior: *diversive* (a reaction to boredom) and *specific* (a reaction to some conceptual conflict posed by the environment). The latter type he further described as "epistemic," curiosity that can only be resolved through the acquisition of knowledge. Berlyne asserts that stimulus uncertainty (exemplified by unfamiliarity, novelty, complexity, ambiguity, or incongruity) increases the arousal level and curiosity. When presented with a stimulus that has a moderate degree of uncertainty, the individual engages in exploratory behavior (e.g., information seeking, information processing, evaluating information) in order to resolve the conceptual conflict and return to a moderate, pleasurable level of stimulation (referred to as "the tonus level") in which the individual functions most effectively (Arnone and Small 1995).

Extending Berlyne's work, Day (1982) describes the optimal level of arousal as the "zone of curiosity," characterized by excitement, interest, and exploration to resolve the conceptual conflict. This optimal level of arousal varies from individual to individual. Too much uncertainty can send an individual into the "zone of anxiety," resulting in feeling overwhelmed and anxious, while too little stimulation can send an individual into the "zone of relaxation," resulting in disinterest and boredom. An individual in either of these zones is likely to withdraw from any exploratory behaviors before resolving the conceptual conflict. Library media specialists can employ strategies that stimulate curiosity about a topic of interest at the beginning of and throughout the research process.

Flow Theory. Building on the research of Berlyne and others on curiosity, Csikszentmihalyi (1975, 1990) identified "flow" theory which predicts that an experience will be most positive when a person perceives that the environment contains enough challenge, matched with the person's skills (Csikszentmihalyi & LeFevre 1989). A flow state is one in which a person

- suspends time and space while fully immersed in a challenging activity,
- focuses attention on a limited stimulus field which provides clear and unambiguous feedback on his/her actions,
- experiences a sense of control, and
- finds the experience itself rewarding (Csikszentmihalyi 1975; 1990).

Csiksentmihalyi found that flow experiences can occur in any context (e.g., ballet, road construction, chess) with any age level but have three requirements: (1) appropriate level of challenge, (2) clearly defined goals, and (3) immediate and useful feedback on progress.

Most of us have experienced flow—that pleasurable feeling of being so engrossed in an activity that we lose all sense of time and space. Finding ways to reduce anxiety and uncertainty during information exploration is one tactic the library media specialist might take to facilitate a flow experience for students as they become involved in the research process.

Research on Motivation

Research on motivation in classroom settings indicates that students perceive their own motivations inextricably linked to the motivational quality of the instruction they receive. In a study exploring the relationship of specific instructional factors to motivational outcomes, Small and Gluck (1994) found that adult subjects believe both the instructor and the learner are important motivating factors. In a study of college students' perceptions of interesting and boring instruction, Small, Dodge, and Jiang (1996) found that most students hold the instructor accountable for making the instruction either interesting or boring. Therefore, it appears that identifying ways to make instruction as motivating as possible for students would be an important goal.

The limited research on motivation in the field of library and information science has largely focused on student behaviors and outcomes in relation to the information search. For example, Kuhlthau's (e.g., 1993) work has explored the thoughts, behaviors, and feelings that students experience as they go through various stages of the research process. She describes the "exploration stage" of research as the most difficult, where students encounter information that is "inconsistent and incompatible and does not match what they already know" (p. 13), resulting in feelings of anxiety, uncertainty, and a lack of confidence. This is consistent with Day's zone of anxiety, where an activity that has too much uncertainty results in students feeling overwhelmed and anxious. About midway through the process, during the focus formulation stage, this uncertainty is resolved and confidence restored (Kuhlthau 1993). It is at this point that the student returns to the moderate, pleasurable tonus level.

In a study on information search styles and gender, Burdick (1996) found that more than one-half of the students in her study, regardless of gender, ranged from mildly to highly detached, disinterested, or bored with the information search process (characteristic of Day's zone of relaxation, when the person has received too little stimulation). Burdick emphasizes the importance of instruction that develops both ability (i.e. knowledge and skills) and desire (i.e. motivation). Research is needed to identify instructional strategies that help achieve that optimal level of arousal (zone of curiosity) characterized by excitement, interest, and exploration during the information search process.

Instructional Motivation Models

Several researchers have recommended a range of instructional strategies for motivating students. Dodge (1989) developed a method for analyzing an unsuccessful lesson and provided ideas for improving it, all of which may be easily applied to library and information skills instruction. For example, if the instruction contains too many facts or new words, he recommends providing a glossary of new words and concepts as they are needed and using mnemonics to help students remember facts. For instruction that arouses too high a level of

uncertainty, he suggests creating a structured problem situation that requires students to form and test hypotheses.

Based on a synthesis of research on instructional motivation, Brophy (1987) identified some general requisites for motivating instruction. These include providing a supportive environment and meaningful learning objectives, maintaining student expectations for success, supplying extrinsic incentives, and capitalizing on students' existing intrinsic motivation. These, too, are applicable to a library and information skills instructional situation.

Specifically focused on the library and information skills instructional context, Kuhlthau (1993) recommends using curriculum-related questions or topics, an introduction by an engaging speaker, brainstorming to clarify and share ideas, and pointing out the applicability of one situation to a range of other situations as effective strategies during research process instruction. Burdick (1996) suggests helping students better understand the information-seeking task, encouraging a range of search styles, and allowing for different levels of success as ways to increase students' feelings of competence and confidence.

The researchers noted above provide support for the importance of instructional motivation and offer some examples of useful approaches or strategies. However, none of them provides a comprehensive and systematic framework for designing instruction that enhances student motivation. The following section describes such a framework.

The ARCS Model of Motivational Design.[6] Using expectancy-value theory as a foundation where effort is believed to be one of the strongest influences on learning and performance, Keller (e.g., 1979, 1983) synthesized the motivational concepts and theories described above (and others) into a comprehensive model of instructional motivation—the ARCS model of motivational design—an easy-to-apply, heuristic approach to increasing the motivational appeal of instruction. The ARCS model, a simple yet powerful motivation model, appears to hold great promise for applications to library and information skills instruction.

The ARCS model identifies four essential components of motivating instruction:

- [**A**]ttention—the instructor uses strategies for arousing and sustaining curiosity and interest;
- [**R**]elevance—the instructor links the instruction to important needs, interests, and motives;
- [**C**]onfidence—the instructor helps students develop a positive expectation for successful achievement of a learning task; and
- [**S**]atisfaction—the instructor manages extrinsic and intrinsic reinforcement (Keller, 1983)

Keller (1987) further breaks down each of the ARCS components into three subcomponents. Each of the ARCS subcomponents, their definitions, and examples relevant to library and information skills instruction appear below.

Attention

Perceptual Arousal: providing novelty, surprisingness, incongruity, or uncertainty.

Example: Place a brightly wrapped box with "Information Problems" printed on it on a table in front of the learners before beginning the lesson.

Inquiry Arousal: stimulating recall by posing questions or problems to solve.

Example: Introduce a new information problem as a "mystery" to be solved and have the students be "detectives" and then provide a some "clues" that will lead them through the process as they search for the solution to their information problem.

Variability: incorporating a range of methods and media that motivates students with varying needs.

Example: After reviewing each of the steps in the research process (projected on overhead transparencies), divide the class into cooperative learning teams and assign each team to work through the process using the same information problem. Later have teams compare similarities and differences in their approaches and solutions.

Relevance

Goal Orientation: clearly presenting the objectives and usefulness of the instruction and specific methods for successful achievement.

Example: Share with students the objectives of the instruction and criteria to be used to evaluate their completed research projects.

Motive Matching: matching instruction to student needs and motives.

Example: Work with the classroom teacher to allow students to present their projects in writing, orally, and/or using media to accommodate different learning needs and styles.

Familiarity: presenting content in ways that are understood by and tied to learners' experience and values.

Example: Begin information skills instruction with a familiar information problem common to most students, such as what movie to see on Saturday night or how to find the best buy on a specific computer game.

Confidence

Learning Requirements: informing learners of what and how they will learn and criteria for assessing learning success.

Example: Inform students that during the required information-seeking phase of the process, they may become overwhelmed with the amount of information they find or frustrated with a lack of relevant information and reassure them that both the library media specialist and classroom teacher will be available for assistance when needed.

Success Opportunities: providing challenging and meaningful opportunities for successful learning.

Example: Provide opportunities for students to practice extracting and summarizing information from various sources before beginning their research projects.

Personal Responsibility: linking learning success to personal effort and ability.

Example: Praise students' understanding and application of the information problem-solving process and attribute it to paying attention, listening, and using critical thinking skills.

Satisfaction

Intrinsic Reinforcement: encouraging and supporting intrinsic enjoyment of the learning experience.

Example: Invite former students to provide testimonials on how learning information skills helped them with homework and class projects.

Extrinsic Rewards: providing positive reinforcement and motivational feedback.

Example: With the classroom teacher, evaluate students' research projects and award certificates to students for mastery of the information problem-solving process.

Equity: maintaining consistent standards and consequences for success.

Example: Evaluate each completed research project on the basis of the criteria established jointly by the teacher and the library-media specialist.

The ARCS model is one of the most well-known and widely applied instructional design models of motivation. Most of the research on and development of the ARCS model has taken place in the classroom setting. The following section describes some of the current research on the ARCS model.

Research on the ARCS Model. Keller (1983; 1987) advocates applying all four ARCS components to any instructional design because of their relationships to expectancy-value theory. He suggests that the attention and relevance components help illustrate the value of learning while the confidence and satisfaction components help build expectations for successful learning. Some evidence supporting this assertion was found in a research study by Small and Gluck (1994) that examined each of the ARCS components and a group of 35 effective instructional attribute terms. They found a significant relationship between the attention and relevance components and between the confidence and satisfaction components. They also found attention and relevance (value factors) to be significantly different than confidence and satisfaction (expectancy for success factors).

Newby (1991) used the ARCS model as a framework for categorizing various motivational strategies used by elementary classroom teachers. He found a strong positive correlation between the number of relevance strategies used by teachers and on-task student behaviors but a negative

relationship for satisfaction (both reward and punishment) strategies; yet, he discovered that over 58 percent of the motivational strategies teachers used were satisfaction strategies while relevance strategies only accounted for about 7 percent of those employed.

Small, Dodge, and Jiang (1996) used the ARCS model to classify instructional episodes that college students described as either interesting or boring. They found that attention and relevance strategies accounted for more than 75 percent of the motivational strategies students considered most effective for stimulating interest and reducing boredom.

There is no precise formula for prescribing the number of motivational strategies required for each instructional situation. We do know that too few strategies result in learning boredom and too many strategies create learning anxiety (Keller, 1983). To identify the optimal amount of motivational strategies, a number of contributing factors must be considered. Some of these are students' age; needs; incoming skills; knowledge and attitudes; initial motives, including attention readiness, perceptions of relevance, felt confidence, and satisfaction potential (Keller 1992); the inherent motivational appeal of the content to be taught; the amount of time allocated; and the availability of required resources and technology. Research is needed to identify which motivational strategies are most effective with specific information problem-solving skills and to explore the impact of the various contributing factors cited above on the acquisition and use of library and information skills.

The Time Continuum Model.[7] Although Keller's model prescribes specific strategies to use, it does not indicate when in the instructional process to use them. Another motivation model developed by Wlodkowski (1981), the time continuum model, identifies six major motivational factors (attitudes, needs, stimulation, affect, competence, reinforcement) and organizes them within a time frame. The time continuum model specifies three time periods (beginning, during, ending) for any instructional episode and prescribes general actions an instructor should take to ensure motivated learners. These specifications include:

Beginning of the Instruction: meet student needs and guarantee positive attitudes

Example: Reassure student confidence and help reduce anxiety and uncertainty during the exploration stage of the research process.

During the Instruction: incorporate strategies that maintain a stimulating, participative, and emotionally supportive learning environment.

Example: Use cooperative learning teams to work through assigned information problems and to share experiences and results.

Ending the Instruction: employ strategies that affirm student competence and reinforce self-confidence.

Example: Acknowledge students' efforts in learning information skills.

While the ARCS model focuses on the selection and amount of strategies, the time continuum model focuses on the sequence of strategies. As a result, the two models may be easily integrated

and applied. The next section of this article illustrates how the ARCS and time continuum models might be integrated and applied to library and information skills instruction.

Integration and Application of Motivation Models

Once the type and number of motivational strategies are selected for inclusion in the lesson or unit, those strategies can then be organized along Wlodkowski's timeline. The hypothetical lesson plan below illustrates one way to sequence the ARCS motivational strategies described earlier in this paper. Actual lessons would, of course, contain more or fewer strategies for each of the ARCS components, based on a thorough analysis of the instructional situation.

Beginning

- Place a brightly-wrapped box with "Information Problems" printed on it on a table in front of the learners before beginning the lesson. (Attention: perceptual arousal)
- Begin information skills instruction with a familiar information problem common to most students, such as what movie to see on Saturday night or how to find the best buy on a specific computer game. (Relevance: familiarity)
- Introduce a new information problem as a "mystery" to be solved and have the students be "detectives" and then provide a some "clues" that will lead them through the process as they search for the solution to their information problem. (Attention: inquiry arousal)
- Share with students the objectives of the instruction and criteria to be used to evaluate their completed research projects. (Relevance: goal orientation)
- Inform students that during the required information-seeking phase of the process, they may become overwhelmed with the amount of information they find or frustrated with a lack of relevant information and reassure them that both the library media specialist and classroom teacher will be available for assistance when needed. (Confidence: learning requirements)
- Invite former students to provide testimonials on how learning information skills helped them with homework and class projects. (Satisfaction: intrinsic reinforcement).

During

- After reviewing each of the steps in the research process (projected on overhead transparencies), divide the class into cooperative learning teams and assign each team to work through the process using the same information problem. Later have teams compare similarities and differences in their approaches and solutions. (Attention: variability)
- Provide opportunities for students to practice extracting and summarizing information from various sources before beginning their research projects. (Confidence: success opportunities)

Ending

- Work with the classroom teacher to allow students to present their projects in writing, orally, and/or using media to accommodate different learning needs and styles. (Relevance: motive matching)

- Evaluate each completed research project on the basis of the criteria established jointly by the teacher and the library-media specialist. (Satisfaction: equity)
- Praise students' understanding and application of the information problem-solving process and attribute it to paying attention, listening, and using critical thinking skills. (Confidence: personal responsibility)
- With the classroom teacher, evaluate students' research projects and award certificates to students for mastery of the information problem-solving process. (Satisfaction: extrinsic rewards)

Conclusions and Recommendations

Previous research on motivational design has focused mostly on classroom teachers or on student outcomes. There has been little research that focuses on identifying appropriate motivational strategies for library-media specialists to use to teach library and information skills. Studies that identify the motivational requirements of this instruction are essential for helping library media specialists develop ways to stimulate and encourage intellectual curiosity and ongoing information seeking and exploration and successfully integrate library and information skills with the curriculum.

Research on the motivational design of library and information skills instruction is needed in order to identify (1) which strategies are most appropriate, (2) how many strategies are appropriate, and (3) at what point in the instruction a particular strategy is most appropriate. Based upon the previous research described in this paper, the following future research on motivation in a library and information skills instructional context is recommended:

- Determine how using motivational instructional strategies influence elementary and secondary student motivation to solve their information problems.
- Identify parts of the information problem-solving process in greatest need of motivational strategies.
- Investigate ways to make the uncertainty of the research process more positive than negative.
- Determine which motivational strategies are most effective with different types of students and content areas.
- Explore what types of motivational strategies encourage on-task behaviors and enjoyment of the research process.

Some of these areas have been incorporated into a pilot study, undertaken by this author and funded through the AASL/Highsmith Research Award,[8] which seeks to describe the motivational aspects of effective library and information skills instruction. A team of specially-trained researchers will observe nearly 100 library and information skills lessons, recording instructional strategies employed by elementary and middle school library media specialists and related student task engagement behaviors. This study is expected to yield rich, descriptive data on effective motivational strategies that will provide a foundation for designing subsequent experimental studies that test specific motivational interventions, comparing changes in student attitudes and learning outcomes. The results of the pilot study will be described in the AASL Research Forum at ALA in Washington, DC.

This article has described some motivation theories and models and has presented ways in which those theories and models might be applied to library and information skills instruction. A number of potential areas of research related to library and information skills instruction have been highlighted and one specific study, currently in progress, was briefly described. Such research is essential for creating learning environments that motivate students to explore their world.

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Web Links

1. Although primarily oriented for academic librarianship, the home page for the University of Washington, Seattle's user education class (http://weber.u.washington.edu/~libr560/index.html) offers a variety of links and resources on library and information skills instruction.
2. For more specific information about library and information skills curricula for K–12, the Librarians Online Information Network (LION) has established an extensive page called Lesson Plans and Teaching Activities for School Librarians (www.libertynet.org/~lion/lessons.html).
3. Information Seeking Models (www.acs.ucalgary.ca/~ahayden/seeking.html) provides a brief overview of various models of information-seeking behavior including Carol Kuhlthau's model.
4. For information about updates to the 1988 version of Information Power, the Information Power Update provides access to drafts and revisions made during the last two years.
5. The ERIC Clearinghouse on Reading, English, and Communications has compiled a bibliography with abstracts titled Motivations: Some General Theories and Classroom Strategies and Practices (www.indiana.edu/~eric_rec/ieo/mot-gen.html).
6. Additional information about motivation in instruction design and the ARCS Model of Motivation Design can be found at the ERIC Digest, Motivation in Instructional Design (http://ericir.syr.edu/Virtual/Listserv_Archives/ITPUBS/Current/0014.html), written by Small.
7. Although directed towards supporting adult learning, the Nebraska Institute for the Study of Adult Literacy has a summary available of Wlodkowski's theories of motivation, including the time continuum model (http://archon.educ.kent.edu/~nebraska/curric/ttim1/artsum2.html).
8. If you are interested in applying for the AASL/Highsmith Research Award or any of AASL's other awards, more information can be found on the AASL Awards, Grants, and Scholarships—The Complete List page (www.ala.org/aasltemplate.cfm?Section=aaslawards).

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